
SOCIETY OF ACTUARIES
Financial and Regulatory Environment – U.S.

Exam GIFREU

MORNING SESSION

Date: Thursday, April 30, 2015

Time: 8:30 a.m. – 11:45 a.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has a total of 100 points. It consists of a morning session (worth 60 points) and an afternoon session (worth 40 points).
 - a) The morning session consists of 12 questions numbered 1 through 12.
 - b) The afternoon session consists of 9 questions numbered 13 through 21.

The points for each question are indicated at the beginning of the question.

2. Failure to stop writing after time is called will result in the disqualification of your answers or further disciplinary action.
3. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions on the exam booklet.

Written-Answer Instructions

1. Write your candidate number at the top of each sheet. Your name must not appear.
2. Write on only one side of a sheet. Start each question on a fresh sheet. On each sheet, write the number of the question that you are answering. Do not answer more than one question on a single sheet.
3. The answer should be confined to the question as set.
4. When you are asked to calculate, show all your work including any applicable formulas.
5. When you finish, insert all your written-answer sheets into the Essay Answer Envelope. Be sure to hand in all your answer sheets because they cannot be accepted later. Seal the envelope and write your candidate number in the space provided on the outside of the envelope. Check the appropriate box to indicate morning or afternoon session for Exam GIFREU.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

****BEGINNING OF EXAMINATION****
Morning Session

1. (5 points)

(a) (1 point) Compare the following types of regulatory action that may be taken by a state department of insurance:

- (i) Mandatory corrective action
- (ii) Administrative supervision

The NAIC may directly intervene in the financial examination of an insurer through the NAIC's Financial Condition (EX4) Subcommittee's call for a special association examination.

(b) (1 point) Describe two situations that can lead to a special association examination.

The NAIC RBC formula includes a charge for credit risk from reinsurance recoverables.

(c) (1.5 points) Describe two criticisms of this charge and the response to each criticism.

(d) (1.5 points) Compare the treatment of earthquake risk among the following regulatory capital standards:

- (i) NAIC RBC formula after including the proposals from the NAIC Solvency Modernization Initiative
- (ii) Solvency II Standard Formula, Solvency Capital Requirement (SCR)
- (iii) Canadian Minimum Capital Test (MCT)

2. (5 points)

- (a) (1 point) Compare the treatment of uncollectible reinsurance in U.S. statutory accounting and U.S. GAAP.
- (b) (0.5 points) Describe the purpose of Note 23D, Uncollectible Reinsurance, in the NAIC Annual Statement Notes to Financial Statements.
- (c) (1 point) State what is required from the appointed actuary regarding reinsurance collectibility in the Statement of Actuarial Opinion.

The Nonadmitted and Reinsurance Reform Act, a subsection of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), empowers individual states to certify alien reinsurers.

- (d) (1 point) Compare the Schedule F Provision for Reinsurance from a certified unauthorized reinsurer and a non-certified unauthorized reinsurer.

The Dodd-Frank Act established the Federal Insurance Office (FIO), which has the power to preempt state regulatory measures.

- (e) (0.5 points) Identify the purpose of the FIO's power to preempt state regulatory measures.
- (f) (1 point) Describe the preconditions for the FIO to implement preemption authority.

- 3.** (5 points) You are the chief actuary and chief risk officer of Zed-Ham Insurance, a large (over \$5 billion in annual written premiums) U.S. insurance group. You are responsible for preparing the group's Own Risk and Solvency Assessment (ORSA) Summary Report.

One of the considerations examined in your ORSA Summary report for Zed-Ham is the "Accounting or Valuation Regime" for which you need to describe the accounting or valuation basis for the measurement of risk capital requirements and available capital. You had initially selected statutory accounting. The Board of Directors for Zed-Ham has now prescribed that economic value must be used in Zed-Ham's ORSA Summary Report. You are unable to judge the appropriateness of this prescribed assumption in the time you have available to prepare the report. You decide to use the International Standard of Actuarial Practice (ISAP) 1, General Actuarial Practice, as your guidance in this matter.

- (a) (1.5 points) Explain what is required of you for the ORSA Summary Report regarding the Board's prescribed assumption.

For the consideration of "Quantification Method" in the ORSA Summary Report, you have selected stochastic modeling.

- (b) (1.5 points) Describe one advantage and one disadvantage of the selected method.

The following other considerations are also included in your report:

- (i) Definition of Solvency
 - (ii) Risks Modeled
 - (iii) Defined Security Standard
 - (iv) Aggregation and Diversification
- (c) (2 points) Identify two examples from each of the four considerations listed.

- 4.** (6 points) Smallish Insurance Company (Smallish) is a U.S. general insurance company. You have been an internal actuary at Smallish from company inception in 2004, responsible for product pricing and special projects.

Jo Biggish, an external actuary with Biggish Actuarial Services, Inc., has been the Appointed Actuary for Smallish on a consulting basis from company inception until the December 2014 Board of Directors meeting.

On December 15, 2014, the Board of Smallish approached you to be the Appointed Actuary for year-end 2014, replacing Jo Biggish. The Board of Smallish also decided to change auditors at this time.

- (a) (1 point) Identify two important considerations that you should address prior to accepting the role.
- (b) (1 point) Compare the use of an internal Appointed Actuary and an external Appointed Actuary. Include in your comparison one advantage and one disadvantage for each.
- (c) (2 points) Describe the three documents that the Appointed Actuary must prepare for Smallish, including the required timing for each document.

You have accepted the role as Appointed Actuary. In your actuarial analysis, you note that Smallish fails all three NAIC IRIS tests dealing with reserves.

- (d) (1 point) Describe your responsibility as Appointed Actuary with respect to the results of the three failed NAIC IRIS reserve tests.

Because of changes in reinsurance terms and provisions and the interpretation of risk transfer by the new auditors, Smallish management has now attested that a material portion of the reinsurance is financial. Smallish will now report the impact of the financial reinsurance using deposit accounting.

- (e) (1 point) Describe your responsibility as the Appointed Actuary regarding this shift to deposit accounting for the financial reinsurance.

5. (7 points)

- (a) (1 point) Describe a condition of the McCarran-Ferguson Act (1945) that must be met by a state to remain the primary regulator of the business of insurance. Include in your description any exceptions to this condition.

In 1999, the Gramm-Leach-Bliley Act (GLB), also called the Financial Services Modernization Act, addressed state vs. federal regulation.

- (b) (1 point) Describe the issues GLB addressed with respect to state regulation of insurance.
- (c) (1 point) Describe two reasons there exists substantial uniformity of insurance regulation among the states.

State regulation of insurance has been criticized as being inefficient because there are some duplicative costs in a state-based system that could be eliminated by the federal regulation of insurance.

- (d) (1 point) Explain how the duplicative costs of state insurance regulation may not be inefficient when compared to a single system of federal regulation.

The top administrator in a state department of insurance is often referred to as the insurance commissioner. In some states this position is elected, while in others the commissioner is appointed.

- (e) (1.5 points) Select one system for filling the position of insurance commissioner and provide for your selection:
- (i) an argument in favor of it;
 - (ii) an argument against it; and
 - (iii) a rebuttal to the argument against it noted in (ii).

According to Vaughan in “The Economic Crisis and Lessons from (and for) U.S. Insurance Regulation,” failure to effectively regulate financial institutions played an important role in the events leading to the financial turmoil of 2007-2009. One reason that may cause financial regulators to fail in their duty of effective regulation is regulatory fallibility.

- (f) (1.5 points) Describe two other reasons that may cause financial regulators to fail in their duty of effective regulation.

6. (4 points) Spread-Out Insurance (SOI) operated only in Country A for many years until last year when it established a subsidiary in Country B. When SOI considered expanding operations to Country B, it noted that Country B is a tax haven because it does not have any corporate taxes.

- (a) (1 point) Describe two types of corporate tax structures that are used in tax havens other than a system of no corporate taxes.
- (b) (1 point) Describe two financial considerations, other than taxation, that should be accounted for when deciding to operate a subsidiary in a different country.
- (c) (1 point) Describe two non-financial considerations that should be accounted for when deciding to operate a subsidiary in a different country.

To operate in Country B, SOI purchased land and a building in an office park where several businesses were already established. After the purchase, Country B decided that it would turn this office park into a public-use nature park. After some tense negotiations, SOI's building and land were ultimately acquired by Country B. Remuneration was involved but Country B's acquisition of SOI's property came without the full consent of SOI.

- (d) (1 point) Describe the legal power used by Country B to acquire SOI's property for public use.

7. (4 points) Statutory accounting categorizes loss adjustment expenses as Defense and Cost Containment (DCC) or Adjusting and Other (AO).
- (a) (0.5 points) Explain how fees for a claims fraud investigator are to be categorized in statutory accounting.
 - (b) (1.5 points) Describe how Schedule P – Part 2 (i.e., incurred development triangles by line of business) handles the following items:
 - (i) AO expenses
 - (ii) DCC expenses
 - (iii) Salvage and Subrogation Received
 - (iv) Salvage and Subrogation Anticipated
 - (v) Structured Settlements
 - (vi) Reinsurance recoverables from a reinsurer in financial difficulty
 - (c) (1 point) Explain how statutory accounting limits investment risk.

Vee Insurance Company (VIC) has had a bad faith claim filed against it. At the time of preparation of the financial statements, VIC is uncertain as to whether or not the claim has any merit.

- (d) (1 point) Describe how VIC should account for this contingent loss under statutory accounting for each of the two scenarios that follow:
 - (i) VIC management's opinion is that the bad faith claim has four distinct possible outcomes, each with equal probability.
 - (ii) VIC management's opinion is that the bad faith claim has a continuous spectrum of possibilities from a known minimum amount to a known maximum amount, and no amount within that range is any more probable than any other.

8. (6 points) Gold Level Insurance (Gold) plans to cede a share of its direct written premium on high risk commercial property policies to Pyrite Re (Pyrite). Pyrite has proposed a reinsurance agreement with the following terms:

A	Policy inception date of July 1, 2015.
B	Agreement to cover losses on policies written from July 1, 2015 to June 30, 2016.
C	Quota share reinsurance with Gold ceding 40% to Pyrite.
D	Reinsurance premium payable on a monthly basis by Gold to Pyrite.
E	All reinsured losses are settled by Pyrite to Gold in a lump sum 3 years after inception of the policy.
F	An insolvency clause which stipulates that if Gold becomes insolvent, Pyrite will reduce its loss settlement obligations to Gold by 10% (i.e., loss settlement reduced to 36% of the direct loss total).
G	Gold to provide premium reports to Pyrite on a monthly basis.
H	Gold to provide loss payment reports to Pyrite every six months.
I	Termination of the contract is on a run-off basis.
J	A reinsurance commission rate is payable by Pyrite to Gold when reinsured losses are settled. The commission has a 1-to-1 swing from a minimum commission rate of 10% at a 75% loss ratio to a maximum commission rate of 30% at a 55% loss ratio.
K	If Gold's high risk commercial property policy direct written premium volume is less than \$1 million for the reinsurance coverage period, Gold must cede 5% of its personal property policies in a new quota share reinsurance agreement for one year commencing July 1, 2016 with a 10% flat reinsurance commission rate.

Gold's high risk commercial property policies have six-month policy periods, an expected loss ratio of 60% and no likelihood of the loss ratio exceeding 80%. Policies are expected to be written uniformly over the reinsurance treaty period. Losses are expected to be reported no later than two weeks after occurrence and are settled no later than three months after report.

Gold's personal property policies are highly profitable with an expected loss ratio of 45% and an expected premium volume of \$10 million.

- (a) (4 points) Determine which terms of the proposed high risk commercial property reinsurance agreement will likely prevent it from being accounted for as reinsurance under the rules of U.S. statutory accounting.
- (b) (2 points) Propose a potential revision to each term identified in part (a) so that the agreement may be accounted for as reinsurance under the rules of U.S. statutory accounting.

9. (5 points)

- (a) (0.5 points) Describe the adjustments required to convert statutory surplus to IFRS capital.
- (b) (1 point) Describe the Insurance Expense Exhibit (IEE) approach to allocating statutory surplus to line of business for the purpose of computing Investment Gain Attributable to Capital and Surplus by line of business.
- (c) (1.5 points) Explain why the IEE allocation of investment income from capital and surplus to a line of business may not be appropriate for use in the ratemaking process.

You are given the following information for Capital Idea Insurance Company (CIIC):

Statutory surplus	\$5.0 million
Equity in the unearned premium reserve	\$1.0 million
Implicit interest discount in full value loss reserves	\$0.8 million
Non-admitted assets	\$1.1 million
Statutory provision for reinsurance	\$0.5 million
Bad debts	\$0.2 million
Expected uncollectible reinsurance	\$0.3 million
Reserve deficiency	\$0.4 million
Cost of holding capital for unpaid losses	\$0.6 million
Opportunity cost of capital	10%

- (d) (2 points) Calculate CIIC's target return on statutory surplus based upon the methodology outlined in the textbook *General Insurance Financial Reporting Topics*.

10. (5 points) The National Flood Insurance Program (NFIP) is a public insurance program administered by the federal government that makes flood insurance available in the U.S.

(a) (3 points) Compare the NFIP to private-sector property insurance with respect to the following features:

(i) Contract language and policy disputes

(ii) Coverage and limits

(iii) Determination of rates

In France, flood is included within the government's "Cat Nat" plan for insuring property from natural catastrophes.

(b) (1.5 points) Compare the operation of the "Cat Nat" plan in France to the NFIP in the United States.

China has one of the highest exposures to flood risk in the world.

(c) (0.5 points) Explain why private sector insurers in China are generally able to include flood peril coverage in property insurance policies without any government involvement.

11. (4 points) U.S. tax accounting, Canadian statutory accounting and International Financial Reporting Standards (under IFRS 4) require the discounting of unpaid loss amounts.

- (a) (1.5 points) Compare the process for discounting unpaid losses under these three accounting standards (U.S. tax, Canadian statutory, IFRS 4) with respect to the following:
- (i) Discount rate
 - (ii) Risk margins
- (b) (2 points) Calculate the total Internal Revenue Service (IRS) tax-basis discounted unpaid losses and expenses for U.S. tax purposes given the following information:

Accident Year	Workers Compensation		
	Schedule P – Part 1D Total Net Losses and Expenses Unpaid [Column 24]	Tabular Discount	IRS Loss Reserve Discount Factor
2011	4,000	400	0.92
2012	7,000	900	0.90
2013	9,000	1,200	0.87
Total	20,000	2,500	

All amounts in the table are in thousands of dollars.

- (c) (0.5 points) Describe how the computation of earned premium in U.S. tax accounting differs from its computation in U.S. statutory accounting.

- 12.** (4 points) It has been noted that U.S. tort law has influenced tort law in the Commonwealth country of Canada to a greater extent than tort law in other Commonwealth countries such as England, Australia and New Zealand.
- (a) (2 points) Compare Canadian tort law to U.S tort law and tort law in other Commonwealth countries (such as England, Australia and New Zealand) with respect to the following:
- (i) Civil Jury
 - (ii) Contingency Fees
 - (iii) Punitive Damages
 - (iv) Class Actions
- (b) (1 point) Describe the major difference between Canadian tort law and U.S. tort law with respect to product liability.
- (c) (1 point) Compare the treatment of compensation for “emotional distress” in Canadian tort law with that in U.S. tort law with respect to insurer bad faith damages.

****END OF EXAMINATION****
Morning Session

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